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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
MCHENRY, KEVIN L

ART UNIT	PAPER NUMBER
1725	3

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/918,238	Applicant( ) ONO, HARRY	
	Examiner Kevin L McHenry	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) 7 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-5 and 8-14 is/are rejected.

7)☒ Claim(s) 6 and 11 is/are objected to.

8)☒ Claim(s) 1-14 are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 30 July 2001 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-6 and 8-14, drawn to soldering machines, classified in class 219, subclass 85.19.

II. Claim 7, drawn to an oil pouch, classified in class 222, subclass 173.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention II has separate utility such as simply containing oil or another fluid without being pierced or such as lubricating other non-wire parts such as fasteners. See MPEP § 806.05(d).

3. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Bryan Lempia on 8 July 2002 a provisional election was made without traverse to prosecute the invention of I, claims 1-6 and 8-14. Affirmation of this election must be made by applicant in replying to this Office action. Claim 7 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Drawings

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 31, 32, 23, 24, 25, 26, 20, and 13. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

6. The abstract of the disclosure is objected to because the is misspelled as "he" in line 3. Correction is required. See MPEP § 608.01(b).

7. The disclosure is objected to because of the following informalities:

On page 6, line 7, the language "with low a beam" is used. It appears that the language should be "with a low beam".

Appropriate correction is required.

Claim Objections

8. Claim 11 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 11 regards the intended use of a soldering machine without citing any further limitations to the structure of the soldering machine.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1-4 and 8-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the computer controls and the computer interface with the soldering machine.

Claim 3 cites that various adjustments can be made by a machine operator, setup person, or a computer when claim 1 cites that adjustments may not be made by a machine operator or setup person. These citations in claim 3 renders the scope of claim 3 indefinite since it is unclear if adjustments can or cannot be made by an operator or setup person. For examination purposes the examiner interpreted the language of claim 3 to mean that adjustments can be made by a computer.

Claim 8 rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

The omitted structural cooperative relationships are: the tip and how it is heated, along with the heating means.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the tip and a structural means to perform the intended use of applying a short pulse of electrical current to the tip.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerr et al. (U.S.P. 3,652,819) in view of Hall (U.S.P. 4,560,100).

Kerr et al. teach an automatic soldering machine that includes a heater for heating a quantity of solder wire and parts in a soldering position and means to move the heater and solder wire into a soldering position, namely mechanisms actuated by cams. Further, the means to move the heater into position includes a pivot mounted frame that supports the heater (see U.S.P. 3,652,819; particularly column 1, lines 5-7; column 2, lines 41-75; column 3, lines 1-15, 70-75; column 4, lines 1-15; column 6, lines 30-63; column 7, lines 70-75; column 8, lines 1-5). It would have been obvious to one

of ordinary skill in the art that the controls and mechanisms for a complete cycle sequence are not manually adjustable during operation of the machine. Such manual adjustments would have to be made while the machine is shutdown for safety measures and to prevent the waste of defective product while such adjustments were being made.

Kerr et al. do not teach that the soldering machine is computer controlled.

Hall teaches a soldering machine that is computer controlled so that process variables are precisely controlled to provide uniform, minimum-defect soldered joints (see U.S.P. 4,560,100; particularly column 3, lines 8-17).

It would have been obvious to one of ordinary skill in the art at the time that the applicant's invention was made to have modified the soldering machine of Kerr et al. by the teachings of Hall. One would have been motivated to do so in order to ensure that process variables are precisely controlled to provide uniform, minimum-defect soldered joints, as Hall teaches.

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Evans (U.S.P. 4,268,739) in view of Maguire (U.S.P. 5,155,332).

Evans teaches an apparatus for soldering that includes a wire feeder having a rigid guide rail and an oscillating bar positioned over the rail with supports a sharp point for engaging the solder wire for forward feed motion of the wire (see U.S.P. 4,268,739; particularly Figure 5; column 6, lines 4-18, 60-66).

Evans does not teach an axial groove in the guide rail.

Maguire teaches a solder feeding machine that includes wheels for feeding the wire. One of the wheels has an axial groove for centering and gripping the wire (see U.S.P. 5,155,332; particularly Figure 2; column 2, lines 33-35).

It would have been obvious to one of ordinary skill in the art at the time that the applicant's invention was made to have modified the machine of Evans by the teachings of Maguire. One would have been motivated to do so in order to provide a groove to center and grip wire being fed, as Maguire teaches.

14. Claims 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ledermann et al. (U.S.P. 5,042,708) or JP 363063569.

Ledermann et al. and JP 363063569 teach soldering machines with a heated metal tip and means to periodically position the tip for a soldering operation. The tip includes an entrance hole for receiving a portion of solder wire and an intersecting hole that allows exit of molten solder onto a part to be soldered (see U.S.P. 5,042,708; particularly Figures 1 and 4; column 3, lines 17-56; see JP 363063569; particularly Figures 1 and 2; abstract).

It would have been obvious to one of ordinary skill in the art at the time that the applicant's invention was made that the soldering machines of Ledermann et al. and JP 363063569 were capable of heating and cooling at the rates cited by the applicant. Furthermore, it would also have been obvious to one of ordinary skill to use the thermal rates, current, and frequencies cited by the applicant as obvious adjustments to the machine and soldering process as a matter of the particular soldering wire being used and the particular parts being soldered since different wires and parts would have

different dimensions and thermal characteristics and therefore different process parameters would have to be used for different situations involving different wires and parts.

It would have been obvious to one of ordinary skill in the art that the exit holes of the machine tips would not allow molten solder and/or flux to be ejected out of the hole. Particularly in the case of JP 363063569 a punch (6) pushes the molten solder out of the tip and would prevent blow back through the solder wire inlet.

The limitation of applying a short pulse of electrical current while the tip is being removed regards an intended use of the soldering machine and does not further limit the structure of the soldering machine. Intended use has been continuously held not to be germane to determining the patentability of the apparatus, In re Finsterwalder, 168 USPQ 530. Purpose to which apparatus is to be put and expression relating apparatus to contents thereof during intended operation are not significant in determining patentability of an apparatus claim, Ex parte Thibault, 164 USPQ 666. A recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the structural limitation of that claimed, Ex parte Masham, 2 USPQ 2d 1647.

Allowable Subject Matter

15. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not teach or suggest a soldering machine with a wire feeder that includes a rigid guide rail and an oscillating bar positioned above the rail that includes a sharp point for engaging the wire for forward feed motion, wherein the guide rail has a front end positioned within about 16 solder wire diameters to a solder tip and the guide rail includes a biasing device for holding the wire within an axial groove.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McGinty et al. (U.S.P. 4,588,468), Childs et al. (U.S.P. 5,519,192), Quinn et al. (U.S.P. 5,813,591), Hild, II (U.S.P. 5,421,505), Hileman (U.S.P 6,273,358), and Buxton (U.S.P. 4,212,265) are cited of interest for illustrating the state of the art in soldering machines.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin L McHenry whose telephone number is (703) 305-9626. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G Dunn can be reached on (703) 308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-6078 for regular communications and (703) 305-6078 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

August 11, 2002

TOM DUNN
SUPERVISORY PATENT EXAMINER
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